

## PATENT ABSTRACTS OF JAPAN

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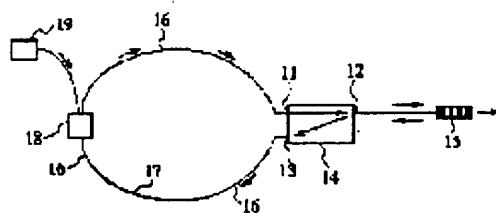
(21)Application number : 07-214279 (71)Applicant : FURUKAWA ELECTRIC CO LTD:THE  
(22)Date of filing : 23. 08. 1995 (72)Inventor : TASHIRO NORIO  
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## (54) OPTICAL FIBER LASER

## (57)Abstract:

PROBLEM TO BE SOLVED: To obtain an optical fiber laser which prevents a spatial hole burning operation and which can be laser-oscillated with high efficiency and at a narrow- band oscillation wavelength by installing a fiber grating which selectively reflects the specific wavelength of light which has been propagated through a light amplifier fiber.

SOLUTION: Exciting light radiated from an exciting light source 19 is coupled by a wavelength-division multiplex directional coupler 18 to excite a light amplifier fiber 17. Then, spontaneous emission light is propagated through an optical fiber 16 from both ends of the light amplifier fiber 17. At this time, the spontaneous emission light and residual exciting light in the counterclockwise direction reach a port 13 at a directional coupler 14 so as to be attenuated here. On the other hand, the light in the clockwise direction is propagated so as to be incident on a first port 11 at the directional coupler 14 so as to be radiated from a second port 12. The light is incident on one end of a fiber grating 15, and it is wavelength-selected here so as to be reflected to the port 12. When this operation is repeated, a narrow-width laser beam is radiated from the other end of the fiber grating 15.



## LEGAL STATUS

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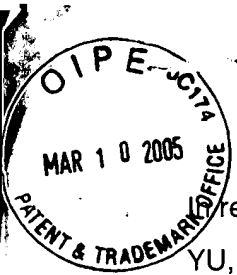
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Patent Application of

YU, Siyuan

Atty. Ref.: 2490-21

Serial No. 10/524,049

TC/A.U.: Unassigned

Filed: February 8, 2005

Examiner: Unassigned

For: TUNABLE RING LASER WITH EXTERNAL GRATING OPERATING IN A  
SINGLE MODE

\* \* \* \* \*

March 10, 2005

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

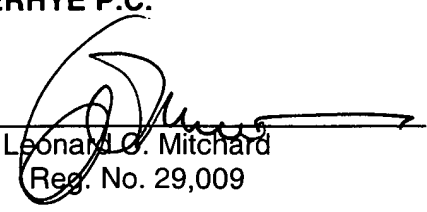
Supplemental to the Information Disclosure Statement filed on February 8, 2005, attached is a completed Form PTO-1449 listing references in connection with this application. Also enclosed is a copy of a Search Report Under Section 17 dated March 21, 2003 and a further Search Report Under Section 17 dated June 19, 2003, together with a copy of each of the references cited therein. Please note that the reference indicated by an asterisk (\*) will be submitted in a Second Supplemental Information Disclosure Statement when received by the undersigned.

The Examiner is requested to initial the attached PTO-1449, and to return a copy of the initialed document to the undersigned as an indication that the listed references have been considered and made of record.

Respectfully submitted,

**NIXON & VANDERHYTE P.C.**

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